

**PLANT PATENT**  
**[File No. 10451.0056.NPUS01]**

**APPLICATION FOR UNITED STATES PLANT PATENT**

**for**

**CHRYSANTHEMUM PLANT NAMED 'RIO DARK'**

**by**

**Keith G. Lintott, 40 Carlton Avenue, Rose Green, Bognor Regis,  
West Sussex, PO21 3LP, United Kingdom  
Citizenship: United Kingdom**

This application claims the benefit of U.S. Provisional Application No. 60/421,382, filed October 25, 2002.

#### LATIN NAME OF THE GENUS AND SPECIES

Botanical classification: *Chrysanthemum morifolium*.

5

#### VARIETY DENOMINATION

The new Chrysanthemum variety denomination is 'Rio Dark.'

#### BACKGROUND OF THE INVENTION

The present invention comprises a new and distinct cultivar of Chrysanthemum botanically known as *Chrysanthemum morifolium*, and referred to by the cultivar name 10 'Rio Dark.'

'Rio Dark,' identified as 30091-4, originated from a whole plant mutation grown in a controlled planting of the unpatented variety 'Rio' in Chichester, West Sussex, United Kingdom. The new variety 'Rio Dark' has been asexually reproduced by vegetative cuttings in Chichester, West Sussex, United Kingdom and the distinguishing 15 characteristics are retained through successive generations of asexual reproduction.

#### BRIEF SUMMARY OF THE INVENTION

'Rio Dark' is a garden type of Chrysanthemum plant variety having a domed canopy of single dark pink flowers and an upright habit.

#### Comparison with Parent

Plants of the new Chrysanthemum variety 'Rio Dark' are similar to the parent 20 variety 'Rio' in plant habit and growth rate. In side-by-side comparisons in Chichester, West Sussex, United Kingdom, under commercial practice, plants of the new Chrysanthemum variety 'Rio Dark' differed from plants of the parent 'Rio' in the following characteristic.

25 1. The new variety 'Rio Dark' produces dark pink flowers whereas the parent 'Rio' produces light pink flowers.

#### Comparison with Other Varieties

Plants of the new Chrysanthemum variety 'Rio Dark' are dissimilar to the variety 'Merriment' (U.S. Plant Patent No, 5,285) in plant habit and growth rate. In side-by-side

comparisons in Chichester, West Sussex, United Kingdom, under commercial practice, plants of the new Chrysanthemum variety 'Rio Dark' differed from 'Merriment' in the following characteristics.

- 5      1. The new variety 'Rio Dark' produces more cupped shaped dark pink flowers whereas 'Merriment' produces more flat mid-pink flowers.
- 2. The new variety 'Rio Dark' has a more uniform domed shaped plant habit than the more spreading habit of 'Merriment.'

#### BRIEF DESCRIPTION OF ILLUSTRATION

Typical specimens of the plant and flowers for the new Chrysanthemum variety 'Rio Dark' are shown in the accompanying digital photograph. The colors shown are as true as possible within the usual limits of this kind of illustration. Figure 1 is a whole plant view of the new variety 'Rio Dark' grown in a pot. The plant shown in the illustration is 63 days from the commencement of planting outdoors in mid-June.

#### DETAILED BOTANICAL DESCRIPTION

15      The following description of the new Chrysanthemum variety 'Rio Dark' is of plants grown outside, natural season, in Chichester, West Sussex, United Kingdom in the month of June. The cultivar has not been observed under all possible environmental conditions. The phenotype may vary significantly with variations in the environment such as temperature, length of day and light intensity, without any variance in genotype.

20      The commercial classification of the new variety is a garden Chrysanthemum.

Plants of the new variety have been grown successfully under temperature conditions averaging about 50°F at night and about 65°F to 75°F during the day under natural light conditions. The plants were grown outdoors in mid-June in 4 liter pots using a loamless compost. No growth retardants were used. To produce a commercial product 25      the plants may be pinched once with the center bud removed. The typical container size for commercial growth is 4 liter (8"). It has been observed that the shelf life of the new variety is about 28 days with a response time of about 9 weeks natural season. The new variety is suitable for growth in a temperature range of 50°F to 75°F.

30      The new variety may be produced as a pot plant. The following description is with respect to a plant produced as garden pot plant. In the description of this new

Chrysanthemum variety, color values have been taken from the Royal Horticultural Society Colour Chart (R.H.S.C.C.).

#### Plant

Plant type: Pot

5 Habit: Free Branching, Round, Upright

Height: 35-50 cm

Width: 40-45 cm

Branching characteristics: Free Branching, Slightly Curved

Length of Lateral Branches: 15-22 cm

10 Number of Breaks from Pinch: 7-8

Stem Color: near 152C

Response Time: 63 days natural season

Vigor: Medium

Shelf Life: 28 days

15 Disease (Susceptibility/Resistance observed): None observed to date

Pest (Susceptibility/Resistance observed): None observed to date

Growth retardant type and treatment: No treatment necessary

The plants were grown for 9 weeks in natural season conditions.

#### Propagation:

20 *Type*: Vegetative Propagation via Stem Cuttings

*Time to rooting*: 12 days with soil temperatures of 70°F

*Rooting habit*: Fine and Fibrous

#### Foliage

Number of Leaves Per Lateral Branch: 7-8

25 Compound or single: Single

Arrangement of Leaves: Alternate

Shape of Leaf: Typically 5 lobed ovate

Size of Leaf:      *Width* (cm): 2.5-5.4    *Length* (cm): 5-7

Leaf Apex: Rounded

Base: Cordate

Attachment: Petioled

5      Aspect: Slightly Undulating

Margin: Palmately Lobed

Surface characteristics:      *Top*: Slightly Pubescent

*Bottom*: Slightly Pubescent

Petiole:      *Color*: near 137B

10      *Length*: 1.5-1.8 cm

Venation : Net prominent mid-vein at underside

*Color*: *upper side*: near 137B

*under side*: near 137C

Color:      Mature Leaf, *upper side*: near 137A; *under side*: near 137C

15      Young Leaf, *upper side*: near 137B; *under side*: near 137B

Flower

Flower appearance: Matte

Flower type: Single

Flower form: Flat to Slightly Cupped

20      Flower shape: Round

Flowering habit: Cyme

Number of blossoms per branch: 18-21

Inflorescence form: Corymibiform

                                        Depth of fully expanded blossoms: 2 cm

25      Diameter of fully expanded blossoms: 5-6 cm

Phyllaries:      *Number*: 23-25

*Color*: near 137B

*Length*: 6-11 mm

*Width:* 1.5-2 mm  
*Texture/Appearance:* Pubescent and shiny

Pedicel: *Length:* terminal: 12 cm; lateral: 14 cm  
*Color:* near 138C

5 *Surface:* Pubescent  
*Habit:* Straight to Slightly Curving  
*Strength:* Medium

Ray Florets: *Form/Shape:* Straight  
*Texture/Appearance:* Matte

10 *Number per flower:* 115-125  
*Length:* 2.5-3 cm; *Width:* 5-6 mm  
*Apex:* Rounded  
*Base:* Tubular  
*Margin:* Entire

15 Disc florets: *Form/Shape:* Cylindrical  
*Texture/Appearance:* Shiny  
*Number per flower:* 200-220  
*Length:* 0.8-1 cm; *Width:* 1 mm  
*Diameter of disc:* 1.5-1.7 cm

20 Fragrance: None

Flower Bud (at onset of color):  
*Length:* 1 cm  
*Diameter:* 8 mm  
*Form/Shape:* Globular

25 General flower color:  
1. Ray florets, *upper side:*  
*Immature:* near 57C  
*Mature:* near 62A  
*Older/Fading:* near 62C

30 2. Ray florets, *under side:*

*Immature:* near 57C

*Mature:* near 62A

*Older/Fading:* near 62C

3. Disc florets:

5           *Immature:* near 150A

*Mature:* near 17A

*Older/Fading:* near 17B

4. Bud: near 137C

Flower progression with age: Flowers fade uniformly with age and become cupped

10           shaped.

Reproductive Organs

Gynoecium present on Ray and Disc florets.

Ray florets per individual flower:

*Pistil number:* 115-120 observed

15           *Stigma color:* near 144C

*Stigma shape:* Forked

*Style color:* near 6C

*Style length:* 2-3 mm

20           Disc florets per individual flower:

*Pistil number:* 180-200

*Stigma color:* near 144D

*Stigma shape:* Forked

*Style color:* near 6C

25           *Style length:* 3-4 mm

Androecium present on Disc florets only.

*Stamen number:* 50-60 observed

*Anther shape:* Tubular

*Anther color:* near 14C

*Pollen color:* near 12A

*Pollen quantity:* Fairly Abundant

Fruit and Seeds: None observed

5